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Cooperative Economic Insect Report

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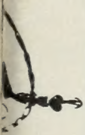

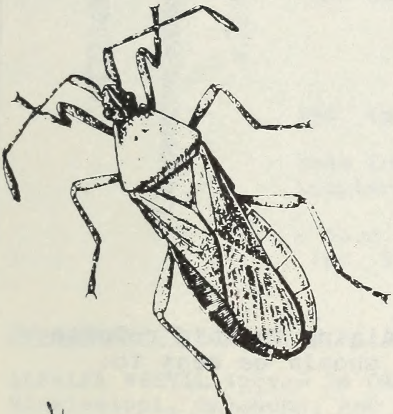

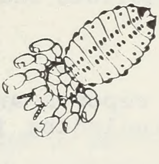

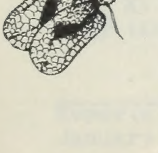

ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
PEST SURVEY AND TECHNICAL SUPPORT STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

GREENBUG active in small grains in Texas, Oklahoma, and Kansas. (pp. 3-4).

ENGLISH GRAIN APHID potentially troublesome on grains in Maryland in spring 1975 if weather favorable. (p. 6).

Detection

● A THRIPS reported in Florida is a new United States record. This species has been recorded on grasses in South America. (p. 13).

New State records include APHELINID WASPS in Hawaii (p. 11) and a CERAMBYCID BEETLE in New Hampshire (p. 12).

For new county and island records see page 12.

Change in Scientific Name

Xyleborus semiopacus has been changed to *X. crassiusulus*. (p. 10).

Special Reports

A New Thrips in Florida. (p. 13).

New Distribution Records for the Beet Armyworm, *Spodoptera exigua* (Hübner) (Lepidoptera: Noctuidae). (p. 14).

Arthopod Pests of the Food Industry: A list and Bibliography of Identification Aids. (pp. 15-34).

Some First Occurrences of the Season

ALFALFA WEEVIL larvae in Oklahoma. CATTLE GRUBS in Kentucky, Mississippi, Oklahoma, and Kansas. CATTLE LICE in Oklahoma. FACE FLY in Tennessee.

● XV International Congress of Entomology: First Announcement. (Centerfold).

Reports in this issue are for the weeks ending January 3 through January 24 unless otherwide indicated.

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SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMY CUTWORM (*Euxoa auxiliaris*) - KANSAS - Trace infestation of small larvae noted in Stevens County wheatfield with light feeding injury December 20. Similar light injury noted in other fields in area but no larvae observed. (Bell). OKLAHOMA - Light in wheat in Kiowa, Washita, and Caddo Counties week ending January 10. (Okla. Coop. Sur.).

BEET LEAFHOPPER (*Circulifer tenellus*) - CALIFORNIA - Survey taken week ending January 17 on breeding slopes in Coalinga and Avenal areas of Fresno County showed some changes in populations and location. Suggests some movement in area and that leafhoppers still looking for warm, favorable slopes. Egg development just beginning, ranged 0-3 (average one) per female. Due to low and scattered plant cover caused by lower than normal rainfall, slopes and flats favorable; causes major problem. Moderate frosts during week ending December 27 burned much new growth and killed young peppergrass seedlings in some areas. Due to light leafhopper populations, treatment plan not yet determined. (Cal. Coop. Rpt.).

CORN EARWORM (*Heliothis zea*) - CALIFORNIA - This species along with *Trichoplusia ni* (cabbage looper) and *Spodoptera exigua* (beet armyworm) required treatment on lettuce plantings at Imperial Valley, Imperial County, week ending January 24. (Cal. Coop. Rpt.).

CORN LEAF APHID (*Rhopalosiphum maidis*) - TEXAS - Light in small grains in Archer, Baylor, Knox, and Throckmorton Counties week ending January 17. (Boring).

GREENBUG (*Schizaphis graminum*) - TEXAS - Increased in small grains in Rolling Plains area week ending December 20. Light, 5-50 per drill row foot, in small grains in Archer, Childress, Cottle, Fisher, Hardeman, Haskell, Jones, Throckmorton, Wichita, Wilbarger, and Young Counties week ending January 10; 50-75 per row foot reported from scattered fields in Childress and Stonewall Counties. Ranged 75-150 per row foot in several Knox and Motley County fields. Some treatments applied. Parasitic wasps active in Archer and Hardeman Counties. In some fields, up to 3 greenbugs per drill row foot parasitized. Lady beetles and nabids preyed on greenbugs in Hardeman and Wilbarger Counties.

Greenbug ranged 5-50 per drill row foot in small grains in same area of Texas week ending January 17. Light to moderate, 10-75 per row foot, in Clay, Knox, Hardeman, Stonewall, and Wilbarger Counties. Light to heavy, from very few up to 180 per row foot, in Knox and Motley Counties. Some treatment made in Hardeman, Knox, Motley, and Wilbarger Counties. Ranged 50-75 per row foot and damaged younger wheat on sandy soils in Hardeman and Wilbarger Counties. Most fields where wheat damaged suffering from nitrogen deficiency. Increased in some Hale County fields, up to 150 per drill foot noted. Populations in most fields well below this level. No chemical treatments applied. Parasitic wasps still active in Archer, Baylor, and Hardeman Counties. Parasitized greenbugs ranged 1-3 per drill row foot. Lady beetles light in Knox County. Ranged 1-40 per drill row foot in Archer, Hardeman, and Wilbarger Counties week ending January 24. Moderate, 50-90 per row foot, in Haskell, Throckmorton, and Wichita Counties. Heavy, 95-190 per drill row foot, in several Knox County fields. Damage greatest to younger wheat. Growers advised to watch wheat carefully to prevent serious greenbug damage. Parasitic wasps still active in Archer and Hardeman Counties, spiders active in Archer, Hall, and Wilbarger Counties. Nabids active in Wilbarger County fields. (Boring, Latham).

OKLAHOMA - Greenbug averaged 30 per linear foot in wheat in Jefferson County and ranged 5-10 per foot in Major County week ending January 3. During week ending January 10, ranged up to 80 per linear foot in Caddo County wheat, up to 35 per linear foot in Beckham County, and 0-120 per linear foot in Kiowa County. Ranged 45-75 per linear foot in early planted wheat and 10-25 per linear foot in late-planted wheat in Cotton and Tillman Counties,and 25-35 per linear foot in early wheat and 0-10 per linear foot in late wheat in Jackson County. Ranged up to 7 per linear foot in wheat checked in Payne County week ending January 17. Populations per linear foot week ending January 24 by county in wheat: Texas 0-100, Washita 50, Tillman 45-150, Cotton 25-35, Jackson 5-80, Harmon 20, and Comanche light. (Okla. Coop. Sur.).

KANSAS - Greenbug ranged 0-20 per drill row foot in 6 fields of 3 to 6-inch wheat in Stevens County. Infestations in two Haskell County fields ranged zero to trace. (Bell). ARKANSAS - Survey negative in northwest area during January. (Boyer).

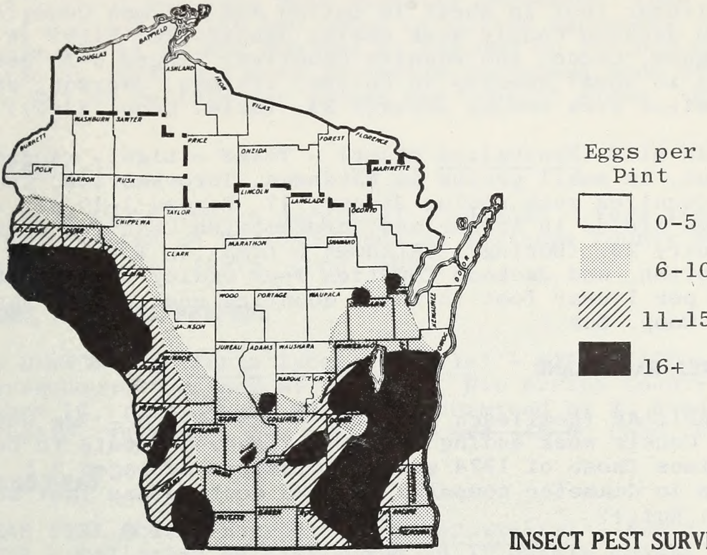
SPOTTED ALFALFA APHID (Therioaphis maculata) - CALIFORNIA - Slow increase and some treatment noted in Imperial County week ending January 24. Many alfalfa fields in other areas used for grazing sheep. (Cal. Coop. Rpt.). FLORIDA - Populations light, 3 nymphs and adults collected per sweep on alfalfa at Gainesville, Alachua County, December 27. (Fla. Coop. Sur.).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - ILLINOIS - Of 236 larvae collected during 1974 fall survey, 20 percent found infected with microsporidiosis. This compares with 21 percent in 1973. Highest incidence of disease found in west district, which had one of highest rates in 1973, and in southeast district, which had heaviest O. nubilalis larval population in 1974. Microsporidiosis incidence in these districts averaged 37 and 39 percent, respectively. Examinations made by J.V. Maddox. (Ill. Ins. Rpt.).

WESTERN BEAN CUTWORM (Loxagrotis albicosta) - KANSAS - Taken from corn in Finney, Kearny, and Haskell Counties during late August 1974. Collected and determined by M.L. Shuman. This is a new county record. (Bell).

CORN ROOTWORMS (Diabrotica spp.) - WISCONSIN - During egg survey conducted during period late September through October 1974, ten soil plugs 2.25 inches in diameter and 2 inches deep collected from 224 fields. Systematic sampling pattern used to insure representative sample from each field. Ten soil plugs from each field pooled, thoroughly mixed, and a one-pint subsample removed for processing. Eggs separated from soil by flotation in saturated magnesium sulfate solution, and egg-bearing supernatent was washed through series of sieves. Eggs collected on 60-mesh sieve, backwashed onto black filter cloth, and counted under binocular microscope at 3-5x power.



INSECT PEST SURVEY

Corn Rootworm Egg Survey
Wisconsin - 1974

State average count was 11.91 Diabrotica spp. eggs per pint of soil. This represents 2-fold increase over 1973 and 8-fold increase over 1972. An increase was noted in all districts of State, with greatest increases in southwest, west-central, and east-central districts. Counts ranged 0-98 eggs per pint. Counts of 0-5 per pint considered noneconomic, 6-15 intermediate, and 16+ high or potentially damaging. Heavy populations are indicated for portions or all of 28 counties (black areas on accompanying map). Individual fields with heavy populations may occur in parts of Adams, Waupaca, and Oconto Counties. Generally noneconomic or light populations are indicated in central, northwest, north-central, and northeast districts, except Adams, Chippewa, Green Lake, Waupaca, and Oconto Counties. (Wis. Ins. Sur.).

SMALL GRAINS

ENGLISH GRAIN APHID (*Macrosiphum avenae*) - MARYLAND - Overwintering populations in small grains ranged light to moderate in Caroline, Talbot, and Dorchester Counties weeks ending January 3 and 10. About 20 percent of acreage infested. Yellowing evident in several areas. Populations potentially troublesome in spring if weather favorable. (U. Md., Ent. Dept.).

AN APHID (*Rhopalosiphum padi*) - TEXAS - Light on wheat in Archer and Throckmorton Counties week ending January 10 and in small grain in Archer, Haskell, Knox, Throckmorton, and Wichita Counties week ending January 24. (Boring). OKLAHOMA - Ranged 40-50 per linear foot in wheat in Cotton and Tillman Counties and 0-10 in Jackson County week ending January 10. Light in Kiowa, Beckham, Caddo, and Washita Counties. Ranged 0-30 per linear foot in wheat checked in Cotton, Tillman, Jackson, and Harmon Counties week ending January 24. (Okla. Coop. Sur.).

WINTER GRAIN MITE (*Penthaleus major*) - TEXAS - Light, ranged 1-30 per row foot, in small grains in Hardeman, Throckmorton, and Wilbarger Counties week ending January 17. Ranged 1-10 per row foot in some fields in Archer and Throckmorton Counties week ending January 24. (Boring). OKLAHOMA - Light in wheat in Tillman, Cotton, and Jackson Counties week ending January 10. Ranged 0-5 per linear foot in these counties week ending January 24. (Okla. Coop. Sur.).

TURF, PASTURES, RANGELAND

RANGE CATERPILLAR (*Hemileuca oliviae*) - NEW MEXICO - Egg survey in Lincoln County week ending January 17 showed counts to be about 10 times those of 1974 season. Clusters averaged 2.5 centimeters in diameter compared to 1.25 centimeters last season. (N.M. Coop. Rpt.).

CHINCH BUG (*Blissus leucopterus leucopterus*) - INDIANA - No economic infestations observed at 12 sites in Vermillion, Warren, Benton, Newton, and Jasper Counties. Only two adults taken in 24 samples collected from bluestem, dropseed, ryegrass, and other grasses collected late in fall 1974. (Meyer).

FORAGE LEGUMES

ALFALFA WEEVIL (*Hypera postica*) - OKLAHOMA - Eggs averaged 101 per square foot in alfalfa sampled January 9 in Garvin County. Counts averaged 313 eggs and 10 larvae per square foot in Payne County January 17. (Okla. Coop. Sur.). ARKANSAS - Survey negative in northwest area forage legumes week ending January 3. (Boyer). MISSOURI - Eggs moderate to heavy during December in the southern areas. Counts per square foot week ending January 4 by county as follows: Cape Girardeau 109, Henry 154, Howell 230.5, Jasper 54, Perry 130.5, Wright 590. (Munson). KENTUCKY - Eggs averaged 134.3 per square foot in Warren County January 9. (Barnett, Parr).

PEA APHID (Acyrthosiphon pisum) - NEW MEXICO - Ranged 2-5 per square foot on new alfalfa at Roswell, Chaves County, week ending January 17. (N.M. Coop. Rpt.). ARKANSAS - Populations light, ranged 5-10 per square foot, in vetch in Washington County week ending January 10. Light in vetch and alfalfa in northeast area same period, but survey negative by January 17. (Boyer).

COTTON

BOLL WEEVIL (Anthonomus grandis) - NORTH CAROLINA - Total losses plus cost of control on cotton continued to decrease during 1974. This is largely due to acreage decrease since losses plus cost of control per acre have steadily increased. Loss plus costs of control on 172,000 acres of cotton harvested in 1973 was estimated at $7,692,500 and $7,140,000 on 150,000 acres harvested in 1974. Per acre estimates increased from $44.72 in 1973 to $47.60 in 1974 for losses and control alone. (Robertson, Hunt).

SUGAR BEETS

GREEN PEACH APHID (Myzus persicae) - ARIZONA - Very light in 5 sugar beet fields in Tolleson area of Maricopa County week ending January 24. (Ariz. Coop. Sur.).

POTATOES, TOMATOES, PEPPERS

TOMATO PINWORM (Keiferia lycopersicella) - NEW MEXICO - Collected from greenhouse tomatoes at Espanola, Rio Arriba County, September 16, 1974, by T. Riddle. Determined by T. Riddle and W.A. Iselin. This is a new county record. (N.M. Coop. Rpt.).

BEANS AND PEAS

LIMABEAN VINE BORER (Monoptilota pergratialis) - SOUTH CAROLINA - Collected on lima beans in Allendale County September 17, 1974, by J.L. Brewer. Determined by C.A. Thomas. This is a new county record. (Thomas).

SMALL FRUITS

REDHEADED ASH BORER (Neoclytus acuminatus) - SOUTH CAROLINA - Taken on grapes in Cherokee County August 10, 1974, and in Chesterfield County August 11, 1974. Collected and determined by D.K. Pollet. These are new county records. (Thomas).

ORNAMENTALS

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - VIRGINIA - Collected from roses August 25, 1972, by R. Heltzel in Culpeper County. Determined by W.A. Allen. This is a new county record. (Allen).

MIMOSA WEBWORM (Homadaula anisocentra) - SOUTH CAROLINA - Collected on mimosa in Saluda County September 30, 1974, by J.W. Riser and in Dillon County September 26, 1974, by C.C. Adams. Determined by C.A. Thomas. These are new county records. (Thomas).

DIASPIDID SCALES - FLORIDA - *Diaspis dignus* taken on *Eryngium yuccifolium* (button snakeroot or rattlesnake master) plants at Macclenny, Baker County, December 11, 1974. *Velataspis dentata* taken on *Persea borbonia* (redbay) plants at Glen St. Mary, Baker County, December 5, 1974. Both collected by C.H. Webb. Determined by G.W. Dekle. These are new county records. (Fla. Coop. Sur.).

WHITE PEACH SCALE (*Pseudaulacaspis pentagona*) - ALABAMA - Infestation heavy on single mulberry tree on lawn at Hartselle, Morgan County, December 6, 1974. Collected by H. Houston. Determined by M.L. Williams. This is a new county record. (McQueen).

IVY APHID (*Aphis hederae*) - OKLAHOMA - Collected from ivy at Guymon, Texas County, November 22, 1974, by B. Massey. Determined by D.C. Arnold. This is a new county record. (Okla. Coop. Sur.).

FOREST AND SHADE TREES

SOUTHERN PINE BEETLE (*Dendroctonus frontalis*) - NORTH CAROLINA - Total salvage of beetle infested timber for Fiscal Year 1975 exceeded all other Southeastern States. From July to September 30, total of 18,696,000 board feet and 3,676,000 cubic feet salvaged from forests in State. (Hunt).

ASIATIC OAK WEEVIL (*Cyrtepistomus castaneus*) - MISSOURI - Collected at lights at Buffalo, Dallas County, and Elkland, Webster County, September 23, 1974, and swept from alfalfa at Mansfield, Wright County, September 24, 1974. Collected and determined by R.E. Munson. These are new county records. (Munson).

OBSCURE SCALE (*Melanaspis obscura*) - CALIFORNIA - Nymphs fairly heavy on *Quercus phellos* (willow oak) in Capitol Park, Sacramento County, week ending January 3. This scale has been under intensive eradication treatment for several years. In spite of multiple treatments, pruning, and systemic injections, scale insect has persisted at low density. (Cal. Coop. Rpt.).

MAN AND ANIMALS

SCREWWORM (*Cochliomyia hominivorax*) - Total of 77 cases reported from continental U.S. during period December 1, 1974, through January 18, 1975, as follows: Texas 69, Arizona 7, California 1. Total of 1,687 cases confirmed from Mexico. Number of sterile flies released in U.S. this period totaled 222,013,900 as follows: Texas 209,521,900; California 11,412,000; Arizona 1,080,000. Total of 716,578,700 sterile flies released in Mexico. (Anim. Health).

CATTLE GRUBS (*Hypoderma* spp.) - KENTUCKY - Larvae averaged 0.04 per animal on backs of 80 Holstein dairy cows of various ages in Fayette County week ending January 3. Increased to 0.88 per animal 7 days later. By end of following week, larvae averaged 1.58 per animal on backs of 24 Holstein dairy cows. Larval populations noted at 2.75 per animal on backs of 25 cows in Fayette County week ending January 24. (Barnett). MISSISSIPPI - *H. lineatum* (common cattle grub) larvae ranged 18-28 per animal in herd of 40 cattle in Holmes County week ending January 17. Many specimens large enough to pupate. Cattle grub larvae also taken from backs of cattle in Attala, Choctaw, and Monroe Counties. (Robinson). OKLAHOMA - *Hypoderma lineatum* ranged 5-25 per head (average 12) on yearlings in Logan County, 0-12 per head (average 7) on cows in Payne County, and 0-8 per head (average 2) on dairy cows in Mayes County week ending January 3. Moderate to heavy in Roger Mills and Comanche Counties and moderate in Haskell County. By January 10, populations ranged 0-3 per head (average 9) on cattle in Payne County. Light in Hughes County. Populations ranged 0-17 (average 9) per head in Payne County the following week. Infestations decreased, ranged 0-11 (average 7) per head on cattle in Payne County week ending January 24. Moderate to heavy in Comanche County. (Okla. Coop. Sur.). KANSAS - In sample of 50 mixed heifers taken week ending January 17 in Kearney County feedlot, 10 percent had heavy infestations (15+ per head), 28 percent moderate (5-15 per head), and 32 percent light (0-5 per head). Total of 70 percent infested. (Bell).

FACE FLY (*Musca autumnalis*) - KENTUCKY - Adults collected near cattle September 26, 1974, in Scott County. Collected and determined by D.E. Barnett. Confirmed by F.W. Knapp. This is a new county record. (Barnett). TENNESSEE - This species along with *Pollenia rudis* (cluster fly), and sarcophagid flies gathered on sides of homes in all areas of State week ending January 3. Heavy populations of these flies very unusual for this time of year. This is first known occurrence of "outbreak" of this type in State. (Mullett). MISSISSIPPI - *M. autumnalis* present near Chickasaw County overwintering sites week ending December 20. (Robinson).

A LOUSE FLY (*Hippobosca longipennis*) - CALIFORNIA - Populations on imported cheetahs decreased at San Diego Wild Animal Park, San Pasquel, San Diego County, week ending January 10. No flies observed for 21 days. Intensive eradication program initiated for entire compound December 27. Area treatment will be repeated midmonthly and animals dusted weekly. (Cal. Coop. Rpt.).

CATTLE LICE - OKLAHOMA - Light infestations, mainly *Haematopinus eurysternus* (shortnosed cattle louse), found on cattle in several Payne County areas week ending January 17. Averaged about one per hair part in favorable areas on Payne County cattle week ending January 24. Moderate to heavy in Comanche County and moderate in Haskell County. (Okla. Coop. Sur.).

MOSQUITOES - KENTUCKY - Two female *Psorophora ciliata* adults, one *P. howardii* female adult, and 16 female adult *Aedes vexans* taken in Marshall County September 30, 1974, by F.W. Knapp. Determined by D.E. Barnett. Confirmed by C.V. Covell. These are new county records. (Barnett, Gregory).

NORTHERN FOWL MITE (*Ornithonyssus sylvarium*) - MISSISSIPPI - Heavy on caged layers in Oktibbeha County week ending January 24. (Robinson).

HOUSEHOLDS AND STRUCTURES

CASEMAKING CLOTHES MOTH (*Tinea pellionella*) - SOUTH CAROLINA - Collected from residence in Newberry County January 15, 1975, by H.L. Eason. Determined by J.B. Kissam. This is a new county record. (McCaskill). TENNESSEE - Heavy in all areas of Hamilton County residence January 17, 1975. Treatments planned. (Mullett).

MISCELLANEOUS WILD PLANTS

A CERAMBYCID BEETLE (*Tetraopes melanurus*) - NEW HAMPSHIRE - Collected on milkweed in Hillsborough County August 16, 1973, by G.C. Tower. Determined by W.J. Morse. This is a new county record. (Tower).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

RED IMPORTED FIRE ANT (*Solenopsis invicta*) - FLORIDA - Eggs and adults collected from mound on pasture at Davie, Broward County, December 11, 1974, by D. Palmer and R.L. Chavez. Determined by D.R. Smith. This is a new county record. Since this date, 3 additional mounds noted at same location. Heavily infested sod farm at Montverde, Lake County, January 15, 1975. Infestation on 10 acres noted at rate of 40 mounds per acre. (Fla. Coop. Sur.).

CHANGE IN SCIENTIFIC NAME

In a paper reporting the results of a visit to the Motschulsky collection in Moscow, USSR, S.L. Wood (1969, Great Basin Nat. 29(3):119) noted that *Xyleborus crassiusculus* (Motschulsky) is a senior synonym of *X. semiopacus* Eichhoff, 1878. The Motschulsky name was proposed in 1866 and not used since then, but according to the rules of the International Commission on Zoological Nomenclature, it is a senior synonym of all names proposed for that species at later dates. Therefore, I am going to use the *Xyleborus crassiusculus* (Motschulsky) in making identifications of the species I have previously been calling *X. semiopacus* Eichhoff.

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Note: This change in scientific name should be made in CEIR 24(45-48):863-864. (PPQ).

New State Records - Specimens of APHELINID WASPS (Encarsia variegata and Encarsia spp.) emerged from rose leaves infested with Aleurocanthus spiniferus (orange spiny whitefly) and collected October 14, 1974, by S. Au at Kapahulu, Oahu. Apparently emerged from A. spiniferus nymphs and pupae, but presence of aphids, mealybugs, and scale insects on rose material make host determination very difficult. E. variegata listed as aleyrodid parasite (of Paraleyrodes) and recorded from Puerto Rico and continental U.S. Three species of Encarsia easily distinguished. Determined by G. Gordh. (Au, Funasaki).

Fruits and Ornamentals - Female of a NOCTUID MOTH (Anua indiscriminata) collected at Kapaa, Kauai, December 10, 1974, by R.F.L. Mau. This is a new island record. Species now recorded on Oahu and Kauai. On Oahu, larvae collected from Java plum leaves for new host record in State. (Mau). BANANA SKIPPER (Erionota thrax) appeared established on Maui at Kahakuloa; 10 larvae collected from rolled banana leaves week ending December 20, 1974. On Kauai, infestations remained light; egg and larval parasites released. On Oahu, infestations and damage increased at Kaneohe same period. Mass parasite releases continued. Data collected during October through December indicate good reason for optimism. Survey of 2 banana plantings at Waimanalo week ending December 20 indicated E. thrax under control in at least part of area. (Ah Sam). Pest continued heavy at Kaneohe week ending January 17, with 50-90 percent of trees infested. Infestation and damage increased rapidly during November and December. Parasites established at 2 sites but adult releases made. (Kumashiro).

General Vegetables - Light larval infestation of a SPHINGID MOTH (Theretra nessus) located for first time on Oahu at Ewa week ending January 3. Nine late-instar larvae found on yam (Dioscorea sp.) in garden. Damage, but no larvae, found in 12 other yam plantings in area. (Mau).

Forest and Shade Trees - A MEALYBUG (Nipaecoccus vastator) heavy on Dodonaea viscosa seedlings at Kahului, Maui. Collected August 28, 1974, by J. Fujii. Determined by J.W. Beardsley. This is a new island record and a new host record. (Beardsley). Light larval damage by OLEANDER HAWK MOTH (Deilephila nerii) observed on oleander at Maunawili and Kailua, Oahu, week ending January 10, but no larvae found. Surveys for ORANGE SPINY WHITEFLY (Aleurocanthus spiniferus) and oleander hawk moth on Maui and Kauai during December negative. Both insects known to occur only on Oahu. (Mau).

Man and Animals - MOSQUITO collections from 72 light traps operated on Oahu during October 1974 totaled 425 Aedes vexans nocturnus females and 26,700 Culex pipiens quinquefasciatus females. Aedes averaged 6 females and Culex 371 females per trap. Much being done to decrease larval breeding in certain problem areas. Reduction in Culex counts should be achieved by spring 1975. During November, totals of 1,980 A. vexans nocturnus females and 22,052 C. pipiens quinquefasciatus females collected in 72 traps. Aedes females averaged 28 and Culex females 306 per trap. (Vector Control Br., State Dept. Health).

DETECTION

New United States Record - A THRIPS (*Denurothrips vezenyii*) - FLORIDA - Dade County. (p. 13).

New State Records

A CERAMBYCID BEETLE (*Callimoxys sanguinicollis sanguimcollis*) - NEW HAMPSHIRE - Adults taken in blacklight trap at Manchester, Hillsborough County, June 13, 1973. Determined by Paul Choate. (Tower).

APHELINID WASPS (*Encarsia variegata*, *Encarsia* spp.) - HAWAII - Oahu Island. (p. 11).

New County and Island Records - ASIATIC OAK WEEVIL (*Cyrtepistomus castaneus*) MISSOURI - Dallas, Wright (p. 8). CASEMAKING CLOTHES MOTH (*Tinea pellionella*) SOUTH CAROLINA - Newberry (p. 10). A CERAMBYCID BEETLE (*Tetraopes melanurus*) NEW HAMPSHIRE - Hillsborough (p. 10). DIASPIDID SCALES (*Diaspis dignus*, *Velataspis dentata*) FLORIDA - Baker (p. 8). FACE FLY (*Musca autumnalis*) KENTUCKY - Scott (p. 9). IVY APHID (*Aphis hederae*) OKLAHOMA - Texas (p. 8). LIMABEAN VINE BORER (*Monoptilota pergratialis*) SOUTH CAROLINA - Allendale (p. 7). A MEALYBUG (*Nipaecoccus vastator*) HAWAII - Maui (p. 11). MIMOSA WEBWORM (*Homadaula anisocentra*) SOUTH CAROLINA - Saluda, Dillon (p. 7). MOSQUITOES (*Psorophora ciliata*, *P. howardi*, *Aedes vexans*) KENTUCKY - Marshall (p. 9). NORTHERN CORN ROOTWORM (*Diabrotica longicornis*) VIRGINIA - Culpeper (p. 7). REDHEADED ASH BORER (*Neoclytus acuminatus*) SOUTH CAROLINA - Cherokee, Chesterfield (p. 7). RED IMPORTED FIRE ANT (*Solenopsis invicta*) FLORIDA - Broward (p. 10). TOMATO PINWORM (*Keiferia lycopersicella*) NEW MEXICO - Rio Arriba (p. 7). WESTERN BEAN CUTWORM (*Loxagrotis albicosta*) KANSAS - Finney, Kearny, Haskell (p. 4). WHITE PEACH SCALE (*Pseudaulacaspis pentagona*) ALABAMA - Morgan (p. 8).

CORRECTIONS

CEIR 24(49-52):888 - CORN (Sweet) MINNESOTA - Delete figures in column "Total Acres Produced." (PPQ).

A New Thrips in Florida

An introduced species, *Dinurothrips vezenyii* Bagnall, was collected by sweeping weeds and grasses in a drainage ditch in the environs of the Miami International Airport, Dade County, on December 31, 1974, and January 8, 1975, by B.K. Dozier. Determined by S. Nakahara and K. O'Neill. This is a new United States record. This species was previously known from Argentina (La Plata, Buenos Aires; Tucuman) on grass and Brazil (Nova Teutonia, S.C.) on decaying grass. The abdomen and legs of the Florida specimens are lighter in coloration than those in the U.S. National Museum from the two countries but otherwise appear to be identical.

The New World genus *Dinurothrips* Hood contains two species. The other species, *D. hookeri* Hood, is polyphagous on non-gramineae hosts, and also occurs in Florida.

The two species can be separated by the following characters.

Tarsi 1 segmented; tibiae yellow.................*D. hookeri* Hood

Tarsi 2 segmented; tibiae golden-yellow to brown.... *D. vezenyii* Bagnall

References

Bagnall, R.S. 1919. Brief descriptions of new Thysanoptera-X. Ann. Mag. Mat. Hist. 1:255-256.

Hood, J.D. 1958. The rediscovery of *Dinurothrips vanzenyii* Bagnall (Thysanoptera: Thripidae), Florida Entomol. 41:67-71.

Jacot-Guillarmod, C. 1971. Thysanoptera Catalogue, Part 2, Ann. Prov. Mus. (Nat. Hist.) 7:255-257.

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Coop. Econ. Ins. Rpt.
25(1-5):13, 1975

New Distributional Records for the Beet Armyworm, *Spodoptera exigua* (Hübner) (Lepidoptera: Noctuidae)

E. L. Todd [1]

Since its introduction into Western North America, about 1875, the beet armyworm, *Spodoptera exigua* (Hübner), has spread eastward across the United States to Florida. In the fall of 1965 it was located in Nicaragua (Todd, 1966, CEIR 16(1):5). The following year I collected the species on Dominica in the Lesser Antilles. Single specimens were obtained at Cabrit Swamp near Portsmouth on October 20, 1966, and on the Grande Savanne on October 31, 1966. Both localities are on the west side of the island. The species apparently was not abundant at that time as no other specimens were collected by eight different entomologists during the course of the Archibold-Bredin-Smithsonian biological survey of Dominica, 1964-1967.

On May 29, 1973, Don and Mignon Davis, Department of Entomology, Smithsonian Institution, captured 9 specimens in a light trap at Constanza, Las Vegas Province, Dominican Republic. The presence of *S. exigua* in both the Greater and Lesser Antilles indicates that the species probably will soon occur widely throughout the islands. *S. exigua* migrates or is readily windblown over large distances in large numbers. It is regularly carried by winds from North Africa to England, and I have recently seen the species in fair numbers in light-trap catches from unmanned oil rigs in the Gulf of Mexico, some of which were located more than 100 miles from shore.

A single male was collected by D.C. Ferguson, Systematic Entomology Laboratory, U.S. Department of Agriculture, at Millville, Grand Codroy River estuary, Newfoundland, July 29, 1962. The specimen is almost certainly a windblown stray.

All the specimens reported in this note are in the collection of the National Museum of Natural History, Washington, D.C.

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U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
25(1-5):14, 1975

Arthropod Pests of the Food Industry:

A List and Bibliography of Identification Aids

J. Richard Gorham 1/

Many hundreds of insect and mite species have been associated at one time or another with various aspects of the food industry. Since convenience is the main objective of this list, no attempt is made here to name all these pests. Although some rare or unusual species are noted, emphasis is given to the common cosmopolitan pests, to pests likely to be encountered in Food and Drug Administration (FDA) and U.S. Department of Agriculture (USDA) operations, and to pests of stored foods in households. Field crop pests have been largely excluded, but many pests associated with other aspects of the food industry--storage, transport, processing, vending, serving--are listed.

A basic tenet of research on the prevention, detection, and control of infestations by food pests is that the investigator must be certain that the offending arthropod is precisely identified. Fortunately, many of our food pests, or even fragments thereof in some cases, are readily identifiable. In other instances the services of a taxonomic specialist are required to produce a trustworthy identification. Therefore, simple consultation of the taxonomic literature listed below cannot guarantee correct identification of every specimen. Rather, this bibliography is intended to assist the operational entomologist in deciding whether to do the identification at the local level or to submit the specimen to competent taxonomic authority.

A list of common names approved for use on pesticide labels has been published by the Environmental Protection Agency (107). In the list below, references are cited by number and are limited to those that provide keys, illustrations, or other useful details about the identification of a given pest. Longstanding and widely used synonyms of scientific names are placed in brackets. Those common names approved by the Committee on Common Names (32) are written entirely in upper case letters. The author welcomes suggestions for the revision of this list.

1/ Food and Drug Administration, Washington, D. C. 20204

ARTHROPOD PESTS OF THE FOOD INDUSTRY

SCIENTIFIC NAMES	COMMON NAMES	REFERENCES
ACARINA	MITES	1-5, 9, 10, 20
Acaridae	ACARID MITES	1, 4, 17, 80
Acarus siro Linnaeus [*Aleurobius farinae* (De Geer)]	GRAIN MITE, flour mite, cheese mite	17, 21, 97
Rhizoglyphus echinopus (Fumouze and Robin)	BULB MITE	1, 17, 80, 97
Suidasia nesbitti Hughes	SCALY GRAIN MITE	17
Thyreophagus entomophagus (Laboulbène)	museum mite	17, 97
Tyrophagus casei (Oudemans)	CHEESE MITE	17, 97
Tyrophagus longior (Gervais)	haystack mite, sugar mite	17, 97
Tyrophagus putrescentiae (Schrank) [*Tyrophagus castellanii* Hirst, *Tyrophagus lintneri* (Osborn)]	MOLD MITE, copra mite, mill mite, mushroom mite, cereal mite	10, 11, 17
Carpoglyphidae	DRIEDFRUIT MITES	80
Carpoglyphus lactis (Linnaeus) [*Acarus passularum* Hering]	DRIEDFRUIT MITE	17, 80
Cheyletidae	cheyletid mites	80
Cheyletomorpha lepidoptorum (Shaw)		80
Cheyletus eruditus (Schrank)	cosmopolitan predatory mite	17, 21
Glycyphagidae	glycyphagid mites	
Glycyphagus destructor (Schrank)	cosmopolitan food mite	10, 17, 80, 97
Glycyphagus domesticus (De Geer)	GROCERS ITCH MITE, house mite	17, 21, 80, 97
Gohieria fusca (Oudemans)	BROWN FLOUR MITE	17, 80, 97

Laelapidae	laelapid mites	
Haemolaelaps casalis (Berlese) [*Haemolaelaps megaventralis* Strandtmann]	peat mite	1, 17
Pyemotidae	PYEMOTID MITES	1, 17
Pyemotes ventricosus (Newport)	STRAW ITCH MITE, harvest mite	9, 10, 11, 17, 20
Pyroglyphidae [Epidermoptidae, Psoroptidae]	SCAB MITES	
Dermatophagoides farinae Hughes	AMERICAN HOUSE DUST MITE	17, 52
Dermatophagoides longior (Berlese)	granary mite	17
Dermatophagoides microceras Griffiths and Cunnington		52
Dermatophagoides pteronyssinus (Trouessart)	EUROPEAN HOUSE DUST MITE	10, 17, 80
CHELONETHIDA [Pseudoscorpionida, Pseudoscorpiones]	PSEUDOSCORPIONS	2, 64
Chelifer cancroides (Linnaeus)	house pseudoscorpion, book pseudoscorpion	14, 64
COLEOPTERA	BEETLES	2, 9, 15, 19, 20
Anobiidae	DEATHWATCH BEETLES, DRUGSTORE BEETLES	2, 3, 7
Lasioderma serricorne (Fabricius)	CIGARETTE BEETLE, tobacco beetle	3, 13, 16, 18, 20, 22, 92
Stegobium paniceum (Linnaeus)	DRUGSTORE BEETLE, biscuit beetle	3, 13, 16, 20, 22, 92
Anthribidae	FUNGUS WEEVILS	2, 15
Araecerus fasciculatus (De Geer) [*Anthribus coffeae* Fabricius]	COFFEE BEAN WEEVIL, nutmeg weevil	3, 16, 19, 21, 22, 45, 92
Bostrichidae	FALSE POWDERPOST BEETLES	3, 15
Rhyzopertha dominica (Fabricius)	LESSER GRAIN BORER	16, 18, 19, 22, 91, 92

Bruchidae	SEED BEETLES	2, 15, 19
Acanthoscelides obtectus (Say)	BEAN WEEVIL	19, 20, 22, 92
Bruchus pisorum (Linnaeus)	PEA WEEVIL	20, 74, 92
Callosobruchus chinensis (Linnaeus)	Chinese pea weevil, southern cowpea weevil	76, 92
Callosobruchus maculatus (Fabricius)	COWPEA WEEVIL	3, 76, 92, 103
Caryedon serratus (Olivier)	groundnut bruchid, tamarind seed beetle	78
Zabrotes subfasciatus (Boheman)	Mexican bean weevil	79
Cleridae	CHECKERED BEETLES	2, 15
Necrobia ruficollis (Fabricius)	REDSHOULDERED HAM BEETLE	16, 92
Necrobia rufipes (De Geer)	REDLEGGED HAM BEETLE	16, 92
Cryptophagidae	CRYPTOPHAGID BEETLES	15
Cryptophagus cellaris (Scopoli)	cellar beetle	15, 16
Cucujidae	CUCUJID BEETLES, FLAT BARK BEETLES	2, 15
Ahasverus advena (Waltl)	FOREIGN GRAIN BEETLE	16, 20, 21, 92
Cathartus quadricollis (Guerin-Meneville)	SQUARENECKED GRAIN BEETLE	92
Cryptolestes capensis (Waltl)	Cape grain beetle	81
Cryptolestes ferrugineus (Stephens)	RUSTY GRAIN BEETLE	20, 21, 31, 81, 92, 95
Cryptolestes pusillus (Schonherr) [Cryptolestes minutus (Olivier)]	FLAT GRAIN BEETLE	22, 31, 46, 81, 92, 95
Cryptolestes turcicus (Grouvelle)	Turkish grain beetle	31, 81, 92, 95
Oryzaephilus mercator (Fauvel)	MERCHANT GRAIN BEETLE	16, 101
Oryzaephilus surinamensis (Linnaeus)	SAWTOOTHED GRAIN BEETLE	16, 20, 22, 101
Curculionidae	SNOUT BEETLES, WEEVILS	2, 15
Caulophilus oryzae (Gyllenhal) [*Caulophilus latinasus* (Say)]	avocado seed weevil	22, 41, 45, 92
Sitophilus granarius (Linnaeus)	GRANARY WEEVIL	16, 20, 22, 45, 70, 92
Sitophilus oryzae (Linnaeus)	RICE WEEVIL	16, 20, 22, 35, 44, 92, 110

meeting facilities of the Washington Hilton Hotel. Special events are being planned at national scientific and cultural centers. Two international airports near Washington give direct access from abroad. University housing will be available in addition to hotel facilities.

The Organizing Committee for the Congress is composed of Curtis W. Sabrosky (Chairman and President of the Congress), Ernest C. Bay (Secretary-General), Wallace P. Murdoch (Treasurer), William G. Eden, Gordon E. Guyer, E. F. Knipling, Robert L. Metcalf, John V. Osmun, Ray F. Smith and Edward O. Wilson.

The program will emphasize plenary symposia, invitational speakers, specialized symposia/work groups/panel discussions, and special interest groups or informal conferences. Thirteen program sections cover Systematics, Genetics, Physiology and Biochemistry, Toxicology, Ecology, Behavior, Social Insects and Apiculture, Biological Control, Medical and Veterinary Entomology, Agricultural Entomology and Pest Management, Forest Entomology, Stored Products and Structural Insects, and Pesticide Development, Management and Regulation.

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Dr. ERNEST C. BAY, **Secretary General**
XV International Congress of Entomology
P.O. Box 151
College Park, Md.
USA 20740

WASHINGTON DC
USA

AUGUST 19-27
1976

XV International Congress of Entomology

First Announcement

The 15th International Congress of Entomology will be held in the beautiful capital city, [illegible] meeting facilities of the Washington Hilton Hotel. Special events are being planned at national

WASHINGTON DC
USA

XV
INTERNATIONAL CONGRESS OF
ENTOMOLOGY

AUGUST 19-27
1976

XV International Congress of Entomology

First Announcement

The 15th International Congress of Entomology will be held in the beautiful capital city, Washington, D.C., U.S.A., August 19–27, 1976, under the sponsorship of the National Academy of Sciences and the Entomological Society of America. Sessions will be held in the excellent meeting facilities of the Washington Hilton Hotel. Special events are being planned at national scientific and cultural centers. Two international airports near Washington give direct access from abroad. University housing will be available in addition to hotel facilities.

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Sitophilus zeamais Motschulsky	MAIZE WEEVIL, rice weevil	35, 70, 110
Dermestidae	DERMESTID BEETLES	3, 7, 15, 83, 93
Anthrenus scrophulariae (Linnaeus)	CARPET BEETLE	15, 20, 25, 51, 83
Anthrenus verbasci (Linnaeus)	VARIED CARPET BEETLE	15, 21, 25, 53, 77, 83
Attagenus megatoma (Fabricius)	BLACK CARPET BEETLE	15, 16, 18, 20, 25, 29, 53, 83
[Attagenus piceus (Olivier) of authors]		
Attagenus pellio (Linnaeus)	felt beetle, fur beetle	15, 16, 25, 29, 83, 92
Dermestes ater De Geer	BLACK LARDER BEETLE	15, 16, 75, 92, 94
Dermestes haemorrhoidalis Küster	sheepskin dermestid	
Dermestes lardarius Linnaeus	LARDER BEETLE, bacon beetle	15, 16, 20, 21, 25, 75, 83, 92, 94
Dermestes maculatus De Geer	HIDE BEETLE, leather beetle	15, 16, 20, 21, 25, 75, 83, 92, 94
[Dermestes vulpinus Fabricius]		
Dermestes peruvianus Castelnau	Peruvian larder beetle	15, 25, 75, 94
Thylodrias contractus Motschulsky	ODD BEETLE	15, 25, 83, 93
Trogoderma glabrum (Herbst)	glabrous cabinet beetle	25-28, 84
Trogoderma granarium Everts	KHAPRA BEETLE	15, 16, 27, 28, 84, 86, 92, 104
Trogoderma inclusum LeConte	larger cabinet beetle	20, 25, 27, 83, 84, 86, 92
Trogoderma ornatum (Say)	ornate cabinet beetle	25-28, 83, 86
Trogoderma simplex Jayne	plain cabinet beetle	26-28, 84, 86
Trogoderma variabile Ballion	warehouse beetle	25-28, 84-86
[Trogoderma parabile Beal]		
Trogoderma versicolor (Creutzer)	European larger cabinet beetle	15, 16
Languriidae [Erotylidae]	pleasing fungus beetles	15
Pharaxonotha kirschi Reitter	Mexican grain beetle	15, 18, 92
Lathridiidae	minute brown scavenger beetles	15, 109
Lathridius minutus (Linnaeus)	SQUARENOSED FUNGUS BEETLE	15, 16, 20, 109
Lathridius protensicollis Mannerheim		15
Microgramme filiformis (Gyllenhal)		15, 16, 109
Microgramme filum (Aubé)		16
Microgramme ruficollis (Marsham)		15

Lyctidae	POWDERPOST BEETLES	2, 15, 19
Lyctus brunneus (Stephens)	brown powderpost beetle, Old World lyctus beetle	16, 19, 48
Mycetaeidae [Endomychidae]	mycetaeid fungus beetles	15, 16
Mycetaea hirta (Marsham)	hairy cellar beetle	15, 16
Mycetophagidae	HAIRY FUNGUS BEETLES	15
Typhaea stercorea (Linnaeus)	HAIRY FUNGUS BEETLE	15, 16, 20, 92
Nitidulidae	SAP BEETLES	2, 15, 42
Carpophilus dimidiatus (Fabricius)	CORN SAP BEETLE	15, 47, 89
Carpophilus flavipes Murray		15
Carpophilus freemani Dobson		42
Carpophilus fumatus Boheman		47
Carpophilus hemipterus (Linnaeus)	DRIEDFRUIT BEETLE	15, 16, 47, 89, 92
Carpophilus humeralis (Fabricius)	pineapple beetle	15, 47, 89, 92
Carpophilus ligneus Murray		15, 16, 47
Carpophilus lugubris Murray	DUSKY SAP BEETLE	42, 89
Carpophilus maculatus Murray		15, 47
Carpophilus marginellus Motschulsky		15, 47
Carpophilus mutilatus Erichson		42, 47
Carpophilus nitidus Murray		47
Carpophilus obsoletus Erichson		15, 16, 47, 89
Carpophilus pallipennis (Say)		15, 89
Carpophilus pilosellus (Motschulsky) [*Carpophilus floridanus* Fall]		89
Carpophilus succisus Erichson		47
Haptoncus luteolus (Erichson)		15, 89
Ptinidae	SPIDER BEETLES	2, 3, 15, 56, 61, 87
Gibbium psylloides (Czenpinski)	shiny spider beetle, storehouse beetle	56, 61, 87, 92
Mezium affine Boieldieu	northern spider beetle	56, 61, 87, 92

Mezium americanum (Laporte)	AMERICAN SPIDER BEETLE	12, 37, 61, 87, 92
Niptus hololeucus (Faldermann)	GOLDEN SPIDER BEETLE	16, 20, 37, 56, 61, 92
Ptinus clavipes Panzer [*Ptinus hirtellus* Sturm]	BROWN SPIDER BEETLE	16, 56, 61, 92
Ptinus fur (Linnaeus)	WHITEMARKED SPIDER BEETLE	16, 37, 56, 61, 87, 92
Ptinus ocellus Brown [*Ptinus tectus* Boieldieu]	AUSTRALIAN SPIDER BEETLE	16, 20, 37, 56, 61, 87
Ptinus raptor Sturm	Canadian spider beetle	37, 56, 61, 92
Ptinus villiger (Reitter)	HAIRY SPIDER BEETLE	20, 37, 56, 61, 87, 92
Sphaericus gibboides Boieldieu	humpbacked spider beetle	61, 87
Trigonogenius globulum Solier	GLOBULAR SPIDER BEETLE	16, 37, 56, 61, 87, 92
Scolytidae	BARK BEETLES	2, 15
Hypothenemus hampei (Ferrari)	coffee bean borer, coffee berry borer	19
Tenebrionidae	DARKLING BEETLES	2, 15
Alphitobius diaperinus (Panzer)	LESSER MEALWORM	16, 18, 19, 92
Alphitobius laevigatus (Fabricius) [*Alphitobius piceus* (Olivier)]	BLACK FUNGUS BEETLE	16, 18, 92
Alphitophagus bifasciatus (Say)	TWOBANDED FUNGUS BEETLE	16, 92
Cynaeus angustus (LeConte)	LARGER BLACK FLOUR BEETLE	18, 92
Gnathocerus cornutus (Fabricius)	BROADHORNED FLOUR BEETLE	16, 19, 21, 22, 92
Gnathocerus maxillosus (Fabricius)	SLENDERHORNED FLOUR BEETLE	16, 18, 19, 92
Latheticus oryzae Waterhouse	LONGHEADED FLOUR BEETLE	16, 18, 19, 92
Palorus ratzeburgi (Wissmann)	SMALLEYED FLOUR BEETLE	12, 16, 19, 92
Palorus subdepressus (Wollaston)	DEPRESSED FLOUR BEETLE	16, 19, 92
Platydema ruficorne (Sturm)	redhorned grain beetle	92
Tenebrio molitor Linnaeus	YELLOW MEALWORM	16, 19, 92
Tenebrio obscurus Fabricius	DARK MEALWORM	12, 16, 19, 92
Tribolium audax Halstead	AMERICAN BLACK FLOUR BEETLE	57
Tribolium castaneum (Herbst)	RED FLOUR BEETLE	16, 19, 20, 49, 63, 92
Tribolium confusum Jacquelin duVal	CONFUSED FLOUR BEETLE	16, 19, 20, 49, 63, 92
Tribolium destructor Uyttenboogaart	dark flour beetle, false black flour beetle	16, 19, 63, 92
Tribolium madens (Charpentier)	European black flour beetle	19, 49, 63, 92

Trogositidae [Ostomidae, Lophocateridae]	barkgnawing beetles	2, 15
Lophocateres pusillus (Klug)	Siamese grain beetle	18, 24, 40, 92
Tenebroides mauritanicus (Linnaeus)	CADELLE, boltingcloth beetle	9, 16, 20, 21, 24
COLLEMBOLA	SPRINGTAILS	2, 9
Entomobryidae	entomobryid springtails	
Entomobrya atrocincta Schött		9, 99, 100
Willowsia platani Nicolet		9, 99, 100
DIPTERA	FLIES	2, 5, 9, 10, 20
Anthomyiidae	ANTHOMYIID FLIES	2, 66, 69
Hylemya antiqua (Meigen)	ONION MAGGOT	6, 60, 66
Hylemya brassicae (Bouché)	CABBAGE MAGGOT	6, 36, 60, 66, 68, 69
Pegomya hyoscyami betae (Curtis)	BEET LEAFMINER	6, 39, 69
Pegomya hyoscyami hyoscyami (Panzer)	SPINACH LEAFMINER	39, 66-69
Calliphoridae	BLOW FLIES	9, 10, 50, 55
Calliphora terraenovae Macquart	Nearctic blow fly	55
Calliphora vicina Robineau-Desvoidy	cosmopolitan blue bottle fly	50, 55, 72
Calliphora vomitoria (Linnaeus)	Holarctic blue bottle fly	50, 55, 72
Chrysomya marginalis (Wiedemann)	fish blow fly	72
Cochliomyia macellaria (Fabricius)	SECONDARY SCREWWORM	50, 55, 72
Cynomyopsis cadaverina Robineau-Desvoidy	blue bottle fly	55, 72
Phaenicia cuprina Wiedemann	bronze bottle fly	50, 55, 72
Phaenicia pallescens (Shannon)	market bottle fly	55, 72
Phaenicia sericata (Meigen)	green bottle fly, English sheep fly	50, 55, 72
Phormia regina (Meigen)	BLACK BLOW FLY	9, 50, 55, 72, 90
Pollenia rudis (Fabricius)	CLUSTER FLY	20, 50, 55, 72
Protophormia terraenovae (Robineau-Desvoidy)	Holarctic blow fly	50, 55, 72
Drosophilidae	VINEGAR FLIES, pomace flies, small fruit flies	9, 10, 19, 20
Drosophila funebris (Fabricius)	rotten potato drosophila	50, 72, 106

Drosophila melanogaster Meigen	drosophilid fruit fly	50, 72, 106
Drosophila repleta Wollaston	latrine drosophila	50, 106
Muscidae	muscid flies	9, 10, 20, 50, 68, 72
Fannia canicularis (Linnaeus)	LITTLE HOUSE FLY	10, 19, 20, 50, 72
Musca autumnalis De Geer	FACE FLY	50, 105
Musca domestica Linnaeus	HOUSE FLY	9, 10, 19, 20, 50, 68, 72, 90, 105
Muscina stabulans (Fallén)	FALSE STABLE FLY	10, 50, 68, 72, 102
Ophyra aenescens (Wiedemann)	bronze dump fly	98
Ophyra leucostoma (Wiedemann)	dump fly	50
Phoridae	HUMPBACKED FLIES, phorids	9, 10, 20, 50
Megaselia scalaris (Loew)	cosmopolitan phorid	33, 72
Spiniphora bergenstammi (Mik)	European snail phorid	34
Piophilidae	SKIPPER FLIES	10, 50
Piophila casei (Linnaeus)	CHEESE SKIPPER	10, 19, 50, 72, 82
Psilidae	rust flies	2
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WEATHER OF THE WEEK ENDING JANUARY 27

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Powerful winter storms packed heavy snows around the western Great Lakes area last week. Drifts were piled over 40 inches high along Michigans Upper Peninsula, and Houghton, Michigan, was blanketed with 47 inches of snow. In contrast, the Southwestern United States recorded another unseasonably warm week with little or no precipitation.

PRECIPITATION: Most of the weeks precipitation occurred from Texas and the eastern Plains to the east coast and in the Pacific Northwest and northern Rockies. Isolated heavy precipitation averaging 2 inches or better was recorded in Washington, Oregon, western Texas, New Hampshire, North Carolina, and across a widespread area in the Deep South. Monday, a Low over North Carolina produced rain over coastal sections of the Southeast with snow from Virginia northward into New Jersey. Before moving off the Atlantic coast, the storm left nearly 4 inches of snow in Washington, D.C., and 3 inches at Richmond, Virginia, Dover, Delaware, and Beckley, West Virginia. A Low from south-central Canada moved across Minnesota early Tuesday, drifting eastward and triggering heavy snows in the northern Great Lakes area. Four more inches of snow piled up at Hancock, Michigan, and 3 inches fell in only six hours near Salt Ste. Marie, Michigan. Wednesday morning, scattered snow flurries left traces of moisture across central Missouri, the northern two-thirds of Illinois,and extreme eastern Iowa into the Great Lakes region. Elsewhere, rain was scattered along much of the gulf coast across southern Georgia into southern South Carolina. A Pacific maritime cold front triggered rain showers in the Pacific Northwest, while a new Low in the Gulf of Mexico produced rain across the Southeastern United States on Thursday. Friday, showers were scattered from the central and lower Mississippi Valley eastward to the mid-Atlantic coast. Thunder showers occurred in southern sections of this area, with some locally heavy rains. In only six hours, Meridian, Mississippi, was soaked with 1.35 inches of rain and Tuscaloosa, Alabama, got 1.18 inches. A winter storm pushed into the western Great Lakes region and brought snow to portions of the northern Plains and mid and upper Mississippi Valley on Saturday. During the morning, the storm dumped as much as 2 feet of snow in northeast sections of Minnesota. Sunday, snow whipped by frigid 30 and 50 m.p.h. winds fell in the northwestern Plains. Both Sheridan, Wyoming, and Billings, Montana, added 3 inches of new snow during the afternoon.

TEMPERATURE: Most of the Nation enjoyed unseasonably mild weather last week, with temperatures averaging above normal in most places. Only sections along the central Continental Divide, central California, and some northern Great Lakes areas reported temperatures slightly below normal for the week. Extremes for the week occurred at International Falls, Minnesota, where an icy 32 degrees below zero was reported Wednesday morning, while a blistering 93 degrees on Sunday afternoon baked Cotulla, Texas. Monday, arctic air pushed southward over northeastern sections of the Nation. Temperatures remained below freezing from New England and the north Atlantic coast through the central Appalachians and Ohio Valley to the upper Mississippi Valley. Nighttime readings over the North Central United States were quite cold Tuesday, with below zero readings from the eastern Dakotas into northern Michigan.

Wednesday, midday bitter cold temperatures spread across the upper Mississippi Valley through the Great Lakes region, with cold readings recorded over much of the remainder of the Nation. Only the Far West escaped the cold enjoying mild afternoon temperatures. Temperatures warmed up in the heart of the Nation with afternoon readings climbing to the 50's as far north as western South Dakota on Thursday. In contrast, the Great Lakes and upper New England failed to warm out of the 20's and 30's. Caribou, Maine, reached a high of only 4 degrees. Friday, temperatures around the Nation ranged from a pleasant 83-degree reading in Orlando, Florida, to a chilly 9 degrees at Gunnison, Colorado. Temperatures across the Nation ranged from the 80's in Florida to the 20's and 30's in the northern border States Saturday. Sunday, bright sunshine pushed afternoon temperatures to new records in parts of Texas. San Antonio reached 87, Austin 83, Amarillo 77, and Victoria 84 degrees, all new records for this date.

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